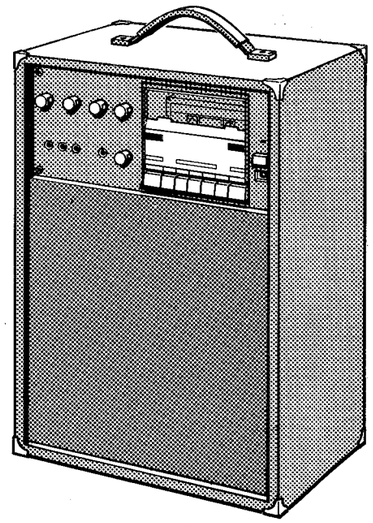
Cassette recorder amplifier D6550/00/05

Service
Service
Service

For repair information of the cassette mechanism see Service Manual of "Recorders tape deck RTS-1" and "Recorders tape deck RTS-7".

Service Manual



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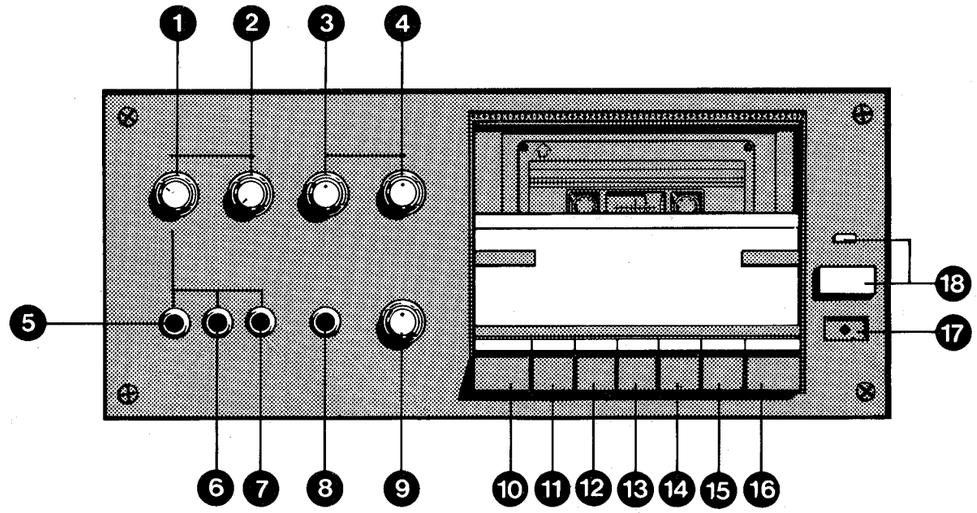
Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçio

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification
4822 725 15498
Printed in The Netherlands

PHILIPS



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CONNECTIONS AND CONTROLS

1	line	"volume line"	R201	11		"recording"	SK102,SK101
2	tape	"volume tape"	R202	12		"rewind"	SK102
3		"bass"	R209	13		"fast forward"	SK102
4		"treble"	R212	14		"stop"	
5		"micr. 1 socket"	BU301	15		"play"	SK102
6		"micr. 2 socket"	BU302	16		"pause"	
7		"line in socket"	BU303	17	V⎓	"external supply D.C."	BU401
8		"line out, headphone socket"	BU304	18	○ ●	"power on/off switch and indicator"	SK401/D402
9	PITCH	"pitch control"	R308				
10		"eject"					

SPECIFICATIONS

220 V, 50/60 Hz
240 V, 50/60 Hz for /05

V⎓ 14 V

Frequency response

(within 8 dB) 80 Hz - 10 kHz

Tape speed 4.76 cm/sec ± 2%

Wow and flutter ⩽ 0.35%

Input sensitivity

ext. mic. 1	2 mV/ 2 kΩ	BU301
guitar/ext. mic. 2	20 mV/ 39 kΩ	BU302
line in	200 mV/470 kΩ	BU303

Output

tape out	0-5 V/120 Ω	BU304
	4-600 Ω	BU304

(GB) MAINTENANCE

It is recommended to clean the recorder and to lubricate the principal lubrication points after approx. 500 hours of operation.

To be cleaned with alcohol or spirit:
— Erase head
— Recording/playback head
— Belts
— Capstan
— Pressure roller

(NL) ONDERHOUD

Aanbevolen wordt het apparaat na ca. 500 bedrijfsuren schoon te maken en op de belangrijkste punten te smeren.

Schoonmaken met alcohol of spiritus:
— Wiskop
— Opneem-/weergeefkop
— Snaren
— Toonas
— Drukrol

(F) ENTRETIEN

L'appareil devra être nettoyé après env. 500 heures de marche et lubrifié aux points les plus importants.

Nettoyer les éléments suivants à l'alcool ou à l'alcool à brûler:
— Tête effacement
— Tête enregistrement/reproduction
— Corroies
— Cabestan
— Galet presseur

(D) WARTUNG

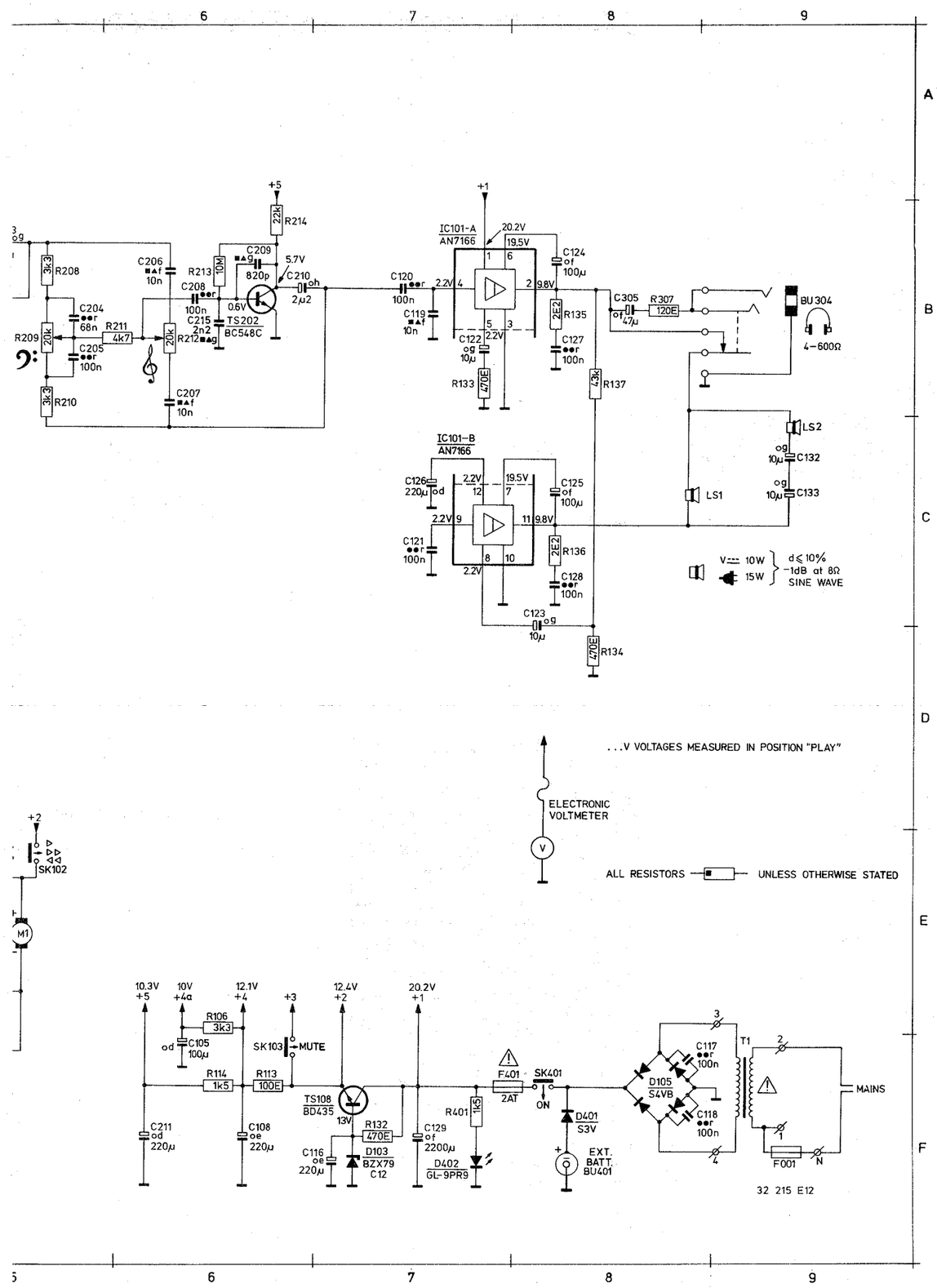
Es empfiehlt sich, das Gerät nach ca. 500 Betriebsstunden zu reinigen und die wichtigsten Schmierpunkte zu schmieren.

Reinigen mit Alkohol oder Spiritus:
— Löschkopf
— Aufnahme/Wiedergabe-Kopf
— Antriebsriemen
— Tonachse
— Andruckrolle

(I) MANUTENZIONE

E consigliabile pulire l'apparecchio dopo circa 500 ore di funzionamento e di lubrificarne i punti principali.

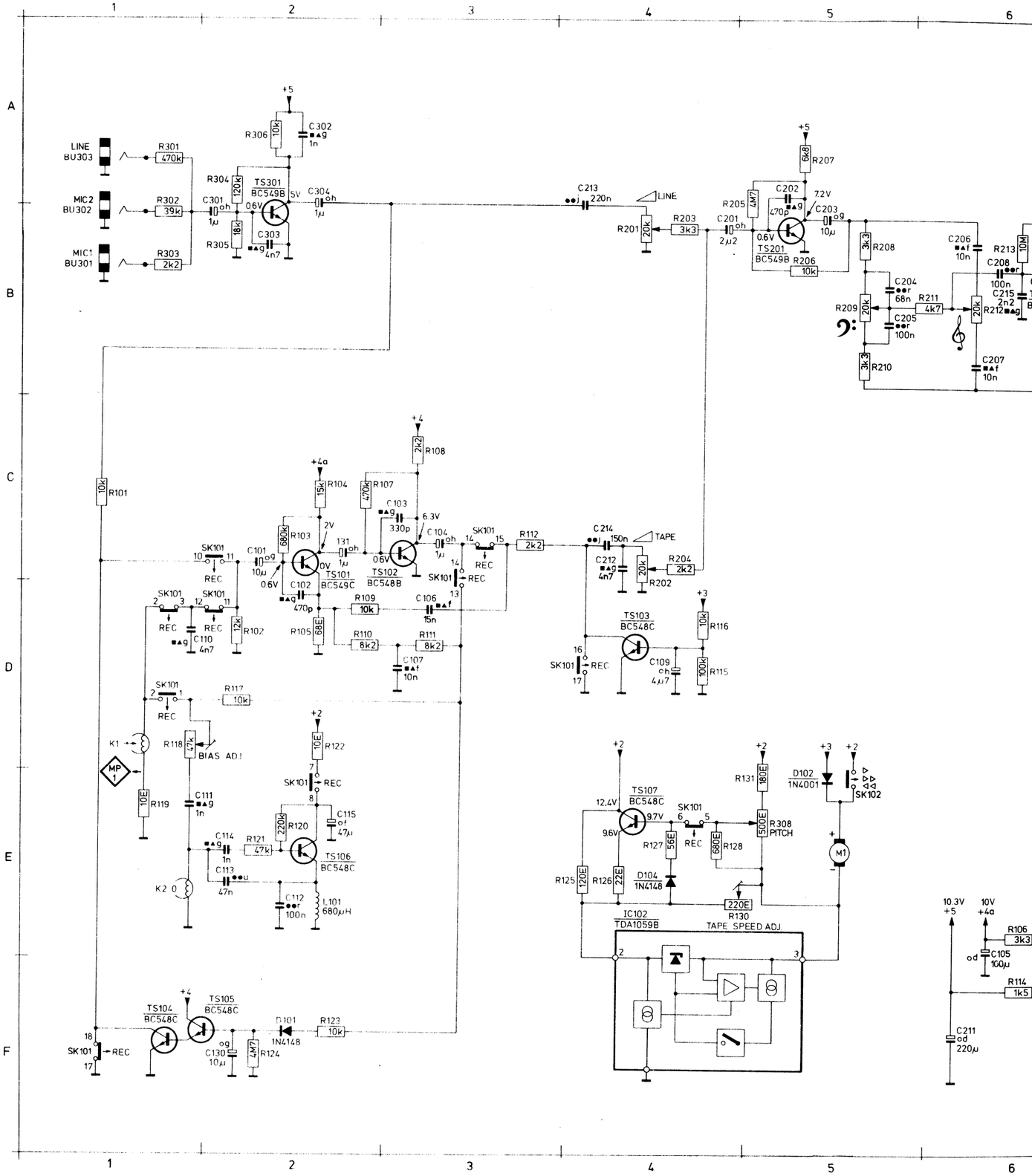
Pulire con alcool:
— Testina di cancellazione
— Testina di registrazione/riproduzione
— Cinghie
— Cabstan
— Rullo preminastro



ITEM	CD	PCB
K1	D01	G06
K2	E01	F06
M1	E05	H06
T1	F09	I06
LS1	C09	E06
LS2	C09	E06
C101	C02	G03
C102	D02	G04
C103	C03	H04
C104	C03	H03
C105	E06	H04
C106	D03	G04
C107	D03	G04
C108	F06	F02
C109	D04	H03
C110	D02	H03
C111	E02	G02
C112	E02	G02
C113	E02	G02
C114	E02	G02
C115	E02	H02
C116	F07	E02
C117	F09	F01
C118	F09	F01
C119	B07	F03
C120	B07	F03
C121	C07	E03
C122	B07	F03
C123	C08	F03
C124	B08	F03
C125	C08	F03
C126	C07	F04
C127	B08	F02
C128	C08	E04
C129	F07	F02
C130	F02	H02
C131	C02	H04
C132	C09	F04
C133	C09	E04
C201	B05	B04
C202	A05	B04
C203	B05	B04
C204	B06	D04
C205	B06	C04
C206	B06	B05
C207	B06	D04
C208	B06	D04
C209	B06	C04
C210	B07	D04
C211	F06	C04
C212	C04	B05
C213	A04	A04
C214	C04	B04
C215	B06	C04
C301	A02	B01
C302	A02	C02
C303	B02	C02
C304	A02	B01
C305	B08	D01
D101	F02	G02
D102	E05	J04
D103	F07	E02
D104	E04	H01
D105	F08	F01
D401	F08	B07
D402	F08	A07
F001	F09	
F401	F08	B06
L101	E02	F02
R101	C01	H02
R102	D02	G04
R103	C02	G04
R104	C02	H04
R105	D02	G04
R106	E06	H04
R107	C03	H04
R108	C03	H04
R109	D03	G04
R110	D03	G04
R111	D03	G04
R112	C03	H03
R113	F06	F02
R114	F06	H03
R115	D05	H04
R116	D05	H04
R117	D02	G02
R118	D02	G02
R119	E01	G03
R120	E02	G02
R121	E02	G02
R122	D02	F02
R123	F02	G02
R124	F02	G02
R125	E04	G01
R126	E04	H01
R127	E04	G01
R128	E05	H01
R130	E05	H01
R131	E05	H01
R132	F07	E02
R133	B07	F03
R134	D08	E03
R135	B08	F03
R136	C08	E03
R137	B08	E03
R201	B04	A04
R202	C04	B04
R203	B04	A04
R204	C04	B04
R205	A05	B04
R206	B05	A04
R207	A05	B04
R208	B05	B04
R209	B05	C04
R210	B05	C04
R211	B06	D04
R212	B06	D04
R213	B06	C04
R214	A07	C04
R301	A01	B01
R302	B01	B01
R303	B01	A01
R304	A02	C01
R305	B02	C02
R306	A02	C02
R307	B08	D01
R308	E05	D02
R401	F07	A07
BU301	B01	A02
BU302	B01	B02
BU303	A01	B02
BU304	B09	C02
BU401	F08	B07
IC101	B07	E03
IC102	E04	H02
SK101	C02	G03
SK102		H06
SK103		G06
SK401		B06
TS101	C02	G03
TS102	C03	H03
TS103	D04	H03
TS104	F01	H02
TS105	F02	H02
TS106	E02	G02
TS107	E04	G01
TS108	F07	E02
TS201	B05	B04
TS202	B06	D04
TS301	A02	C01

Adjustment	Cassette	Recorder in position	Measure on	Read on	Adjust with	Adjust to
Play back speed	3150 Hz of SBC420*	PLAY	BU-304	Wow- and flutter meter	R130	**a
Azimuth R/P head	8 kHz of SBC420*	PLAY	BU-304	mV-meter	Left screw R/PB head	Max. output
Bias	—	REC	MP1	mV-meter	R118	≈ 7.5 mV

* SBC420: 4822 379 30071.
**a The maximum permissible speed deviation is 2%.
Moreover, the wow-and-flutter value can be read.
This value should not exceed 0.35%.



R302	B01	B01
R303	B01	A01
R304	A02	C01
R305	B02	C02
R306	A02	C02
R307	B08	D01
R308	E05	D02
R401	F07	A07
BU301	B01	A02
BU302	B01	B02
BU303	A01	B02
BU304	B09	C02
BU401	F08	B07
IC101	B07	E03
IC102	E04	H02
SK101		G03
SK102		H06
SK103		G06
SK401		B06
TS101	C02	G03
TS102	C03	H03
TS103	D04	H03
TS104	F01	H02
TS105	F02	H02
TS106	E02	G02
TS107	E04	G01
TS108	F07	E02
TS201	B05	B04
TS202	B06	D04
TS301	A02	C01

Adjust to	Max. output
**a	≈ 7.5 mV

LINE BU303 · MIC2 BU302 · MIC1 BU301 · R301 470k · R302 39k · R303 2k2 · C301 oh 1µ · R304 120k · R305 18k · TS301 BC549B 5V 0.6V · C303 ■▲g 4n7 · R306 10k · C302 ■▲g 1n · C304 oh 1µ

C213 ●●j 220n · LINE · R201 20k · R203 3k3 · C201 oh 2µ2

+5 · R207 6k8 · R205 4M7 · C202 ■▲g 470p · 7.2V · TS201 BC549B 0.6V · C203 og 10µ · R206 10k

R208 3k3 · R209 20k · R210 3k3 · C204 ●●r 68n · C205 ●●r 100n · R211 4k7 · C206 ■▲f 10n · C207 ■▲f 10n · R212 20k

+5 · R214 22k · R213 10M · C209 ■▲g 820p · 5.7V · TS202 BC548C 0.6V · C210 oh 2µ2

+1 · IC101-A AN7166 · 20.2V · 19.5V · 9.8V · 2.2V · C120 ●●r 100n · C119 ■▲f 10n · C122 og 10µ · R133 470E · C124 of 100µ · R135 2E2 · C127 ●●r 100n · R137 4k3

C305 of 47µ · R307 120E · BU304 4–600Ω

IC101-B AN7166 · C126 od 220µ · C121 ●●r 100n · C125 of 100µ · R136 2E2 · C128 ●●r 100n · C123 og 10µ · R134 470E

LS2 · C132 og 10µ · LS1 · C133 og 10µ

V⎓ 10W / 15W } d ⩽ 10% −1dB at 8Ω SINE WAVE

R101 10k

+4a · R104 15k · R103 680k · 2V · 0V · TS101 BC549C · C101 og 10µ · C102 ■▲g 470p · 131 oh 1µ · 0.6V

+4 · R108 2k2 · R107 470k · C103 ■▲g 330p · 6.3V · TS102 BC548B 0.6V · C104 oh 1µ

SK101 10 11 REC · SK101 2 3 REC · SK101 12 11 REC · C110 ■▲g 4n7 · R102 12k

SK101 14 15 REC · SK101 14 13 REC · R112 2k2 · C106 ■▲f 15n · R109 10k · R105 68E · R110 8k2 · R111 8k2 · C107 ■▲f 10n

C214 ●●j 150n · TAPE · C212 ■▲g 4n7 · R204 2k2 · R202 20k

+3 · TS103 BC548C · R116 10k · SK101 16 17 REC · C109 oh 4µ7 · R115 100k

SK101 2 1 REC · R117 10k

K1 · MP 1 · R118 47k BIAS ADJ · R119 10E · C111 ■▲g 1n · K2 0

+2 · R122 10E · SK101 7 8 REC · C114 ■▲g 1n · R121 47k · R120 220k · C115 of 47µ · C113 ●●u 47n · TS106 BC548C · C112 ●●r 100n · L101 680µH

+4 · TS104 BC548C · TS105 BC548C · SK101 18 17 REC · C130 og 10µ · 4M7 R124 · D101 1N4148 · R123 10k

+2 · TS107 BC548C 12.4V 9.6V 9.7V · R125 120E · R126 22E · D104 1N4148 · R127 56E · SK101 6 5 REC · R128 680E · R131 180E · R308 500E PITCH · D102 1N4001 · +3 +2 · SK102 · M1

IC102 TDA1059B · 2 · 3 · R130 220E TAPE SPEED ADJ.

10.3V +5 · 10V +4a · 12.1V +4 · +3 · 12.4V +2 · 20.2V +1

R106 3k3 · C105 od 100µ · R114 1k5 · C211 od 220µ · R113 100E · C108 oe 220µ · SK103 MUTE

TS108 BD435 13V · R132 470E · C116 oe 220µ · D103 BZX79 C12 · C129 of 2200µ · D402 GL-9PR9 · R401 1k5

F401 2AT · SK401 ON · D401 S3V · EXT. BATT. BU401

D105 S4VB · C117 ●●r 100n · C118 ●●r 100n · T1 · MAINS · F001 · N

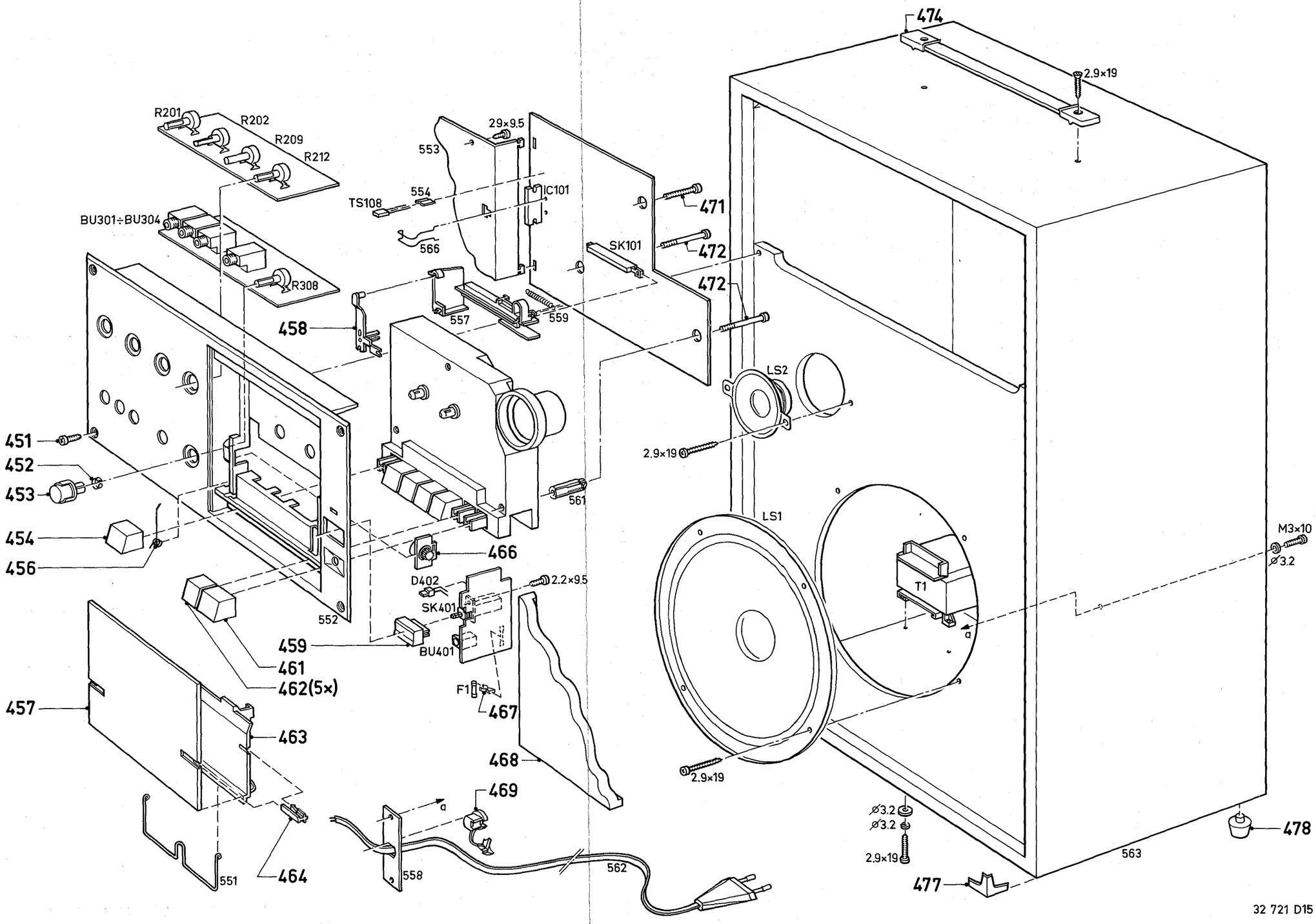
32 215 E12

. . . V VOLTAGES MEASURED IN POSITION "PLAY"

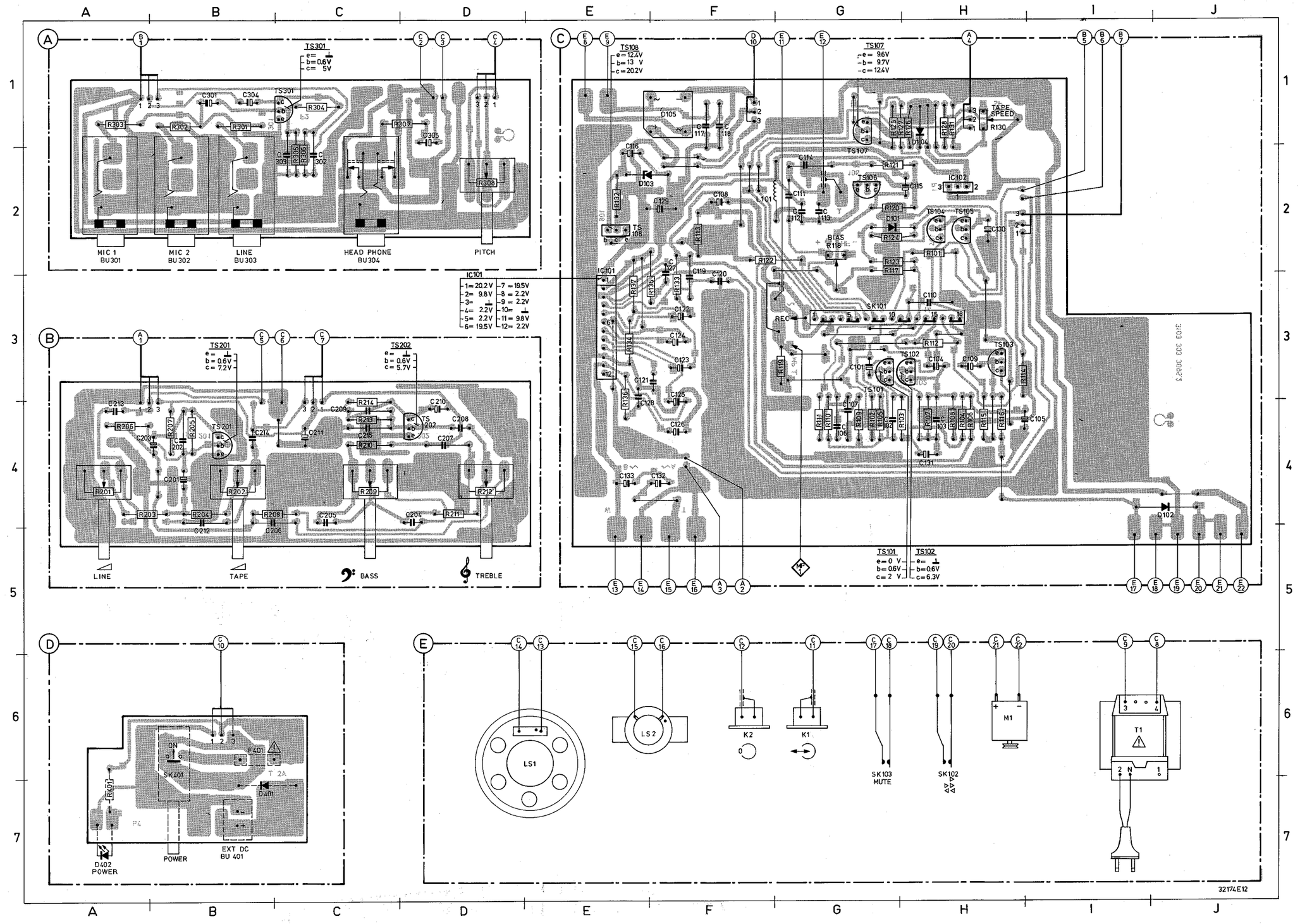
ELECTRONIC VOLTMETER

ALL RESISTORS — UNLESS OTHERWISE STATED

451	4822 502 30098	
452	4822 492 61974	
453	4822 413 31187	
454	4822 410 23097	
456	4822 492 41036	
457	4822 450 60313	
458	4822 404 30591	
459	4822 410 23143	
461	4822 410 23096	
462	4822 410 23095	
463	4822 443 61104	
464	4822 403 51937	
466	4822 535 70618	
467	4822 492 62373	
468	4822 445 30081	
469	4822 290 40158	
471	4822 502 30235	
472	4822 502 30301	
474	4822 498 10186	
477	4822 462 40622	
478	4822 462 40607	



CS 88 910


TS301
e= ⊥
b= 0.6V
c= 5V
MIC 1
BU301
MIC 2
BU302
LINE
BU303
HEAD PHONE
BU304
PITCH
IC101
1= 20.2V
2= 9.8V
3= ⊥
4= 2.2V
5= 2.2V
6= 19.5V
7= 19.5V
8= 2.2V
9= 2.2V
10= ⊥
11= 9.8V
12= 2.2V
TS201
e= ⊥
b= 0.6V
c= 7.2V
TS202
e= ⊥
b= 0.6V
c= 5.7V
LINE
TAPE
BASS
TREBLE
TS108
e= 12.4V
b= 13 V
c= 20.2V
TS107
e= 9.6V
b= 9.7V
c= 12.4V
TAPE SPEED
BIAS
REC
TS101
e= 0 V
b= 0.6V
c= 2 V
TS102
e= ⊥
b= 0.6V
c= 6.3V
D402
POWER
POWER
EXT DC
BU 401
LS1
LS2
K2
K1
SK103
MUTE
SK102
M1
T1
32174E12

CS 88 909

-R-		
R118	Trimpot. 47 kΩ	4822 100 10079
R130	Trimpot. 220 Ω	4822 100 10597
R201,R202	Volume 20 kΩ	4822 101 30509
R209	Bass 20 kΩ	4822 100 20103
R212	Treble 20 kΩ	4822 100 20103
R308	Pitch 500 Ω	4822 101 20716

-D-		
D101,D104	1N4148	4822 130 30621
D102	1N4001G	4822 130 31438
D103	BZX79-B12	4822 130 34197
D105	S4VB-20	4822 130 31007
D401	S3V-20	4822 130 41172
D402	GL9PR9	4822 130 31432

-TS-		
TS102	BC548B	4822 130 40937
TS103÷107	BC548C	4822 130 44196
TS101	BC549C	4822 130 44246
TS108	BD437	4822 130 40982

-IC-		
IC101	AN7166	4822 209 81503
IC102	TDA1059B	4822 209 80361

-SK-		
SK101	REC/PB switch	4822 277 30669
SK401	Power on/off switch	4822 276 11165

-Miscellaneous-		
BU301÷303		4822 267 30345
BU304	Headphone socket	4822 267 30385
BU401	Ext. DC socket	4822 267 30431
L101	680 μH	4822 157 50968
LS1	AD80800/P8	4822 240 60153
LS2	Tweeter	4822 240 30242
⚠ T1	220 V	4822 145 30293
⚠ T1 for /05	240 V	4822 145 30294
⚠ F401	T2A	4822 253 30025
⚠ F1	Thermal fuse	4822 252 20007

Carbon film 0.2 W	70°C	5%	
Carbon film 0.33 W	70°C	5%	
Metal film 0.33 W	70°C	5%	
Carbon film 0.5 W	70°C	5%	
Carbon film 0.67 W	70°C	5%	
Carbon film 1.15 W	70°C	5%	

Ⓒ Chip component

Ceramic plate Tuning ⩽ 120 pF NP.0	2%	
Others	−20/+80%	
Polyester flat foil	10%	
Metalized polyester flat film	10%	
Polyester flat foil small size (Mylar)	10%	
Polysterene film/foil	1%	
Tubular ceramic		
Miniature single		
Subminiature tantalum	± 20%	

*a	= 2,5 V
b	= 4 V
c	= 6,3 V
d	= 10 V
e	= 16 V
f	= 25 V
g	= 40 V
h	= 63 V
j	= 100 V
l	= 125 V
m	= 150 V
n	= 160 V
q	= 200 V
r	= 250 V
s	= 300 V
t	= 350 V
u	= 400 V
v	= 500 V
w	= 630 V
x	= 1000 V
A	= 1,6 V
B	= 6 V
C	= 12 V
D	= 15 V
E	= 20 V
F	= 35 V
G	= 50 V
H	= 75 V
I	= 80 V

27 037A/C

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.